

ADDITIONAL NOTES ON THE GENUS *GEUNZIA*. III

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GEUNZIA HEXANDRA (Teijsm. & Binn.) Koord.

Additional bibliography: H. Hallier, Meded. Rijks Herb. Leid. 37: 23. 1918; H. J. Lam, Verbenac. Malay. Arch. 30, 31, 37--38, 362, & 365. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 11, 13--14, 107, 111, vi, & xii. 1921; Mold., Prelim. Alph. List Inv. Names 11. 1940; Mold., Alph. List Inv. Names 9. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 66 & 93. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 386. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 147 & 185. 1949; Mold., Résumé 184, 188, 190, 195, 197, 199, 218, 243, 246, 295, & 455. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 386. 1960; Hegnauer, Chemotax. Pfl. 3: 39. 1964; Mold., Phytologia 21: 232, 384, & 470. 1971; Mold., Fifth Summ. 1: 317, 324, 330, 332, 363, 409, 415, & 416 (1971) and 2: 520 & 878. 1971; Mold., Phytol. Mem. 2: 307, 315, 320, 322, 353, 354, & 548. 1980; Mold., Phytologia 49: 430 (1981), 50: 52, 56, & 64 (1981), and 50: 144, 150, 151, & 226. 1982.

A small tree, 1--13 m. tall, often branching from the base; trunk to 50 cm. in diameter at breast height; bark yellow-brown, rather smooth; sap not milky; branchlets tetragonal, stellate-floccose; leaves anisophyllous; petioles 1--3 cm. long, stellate-floccose; leaf-blades subchartaceous, oblong-ovate, 11--24 cm. long, 5--11 cm. wide, apically with a 1--2 cm. long acumen, marginally entire, basally cuneate or obtuse-rotundate, very often inequilateral, glabrous (except for the venation) above when adult, densely stellate-floccose or tomentose beneath; secondaries 7--9 per side; inflorescence often purple; cymes 5.5--10 cm. long, 4--7.5 cm. wide, stellate-floccose; peduncles 3--5.5 cm. long; calyx light-green, 3 mm. long, mostly 6- or 7-ribbed and -toothed (rarely 5-), glandulose, hairy, the teeth apically abrupt; corolla violet or purple, externally softly pubescent and glandulose, the tube 6 mm. long, the mostly 6 or 7 (rarely 5) lobes 1 mm. long; stamens 5--7, 1 cm. long; anthers 3 mm. long, twice as long as wide, dark-purple, glandulose on both sides especially dorsally; style 1 cm. long; stigma capitate, white; ovary externally glandulose, 6-celled, the cells 2-ovulate; fruit red when ripe, with 12 (or less by abortion) pyrenes.

This species is based on an unnumbered Teijsmann collection from Minahassa in the province of Menado, Celebes, deposited in the Leiden herbarium as sheet number 908.266-855. Koorders' original (1898) publication of this name is merely: "*Callicarpa hexandra* T. et B. msc. vide *Geunsia hexandra* n. sp....*Geunsia hexandra* n. sp. -- Boom. -- Lomes (Rt) of Nanajoep (Rt). bij Ratahan. -- Olimato (Tw) of Mololajoe (Tw) bij Loeboe Van deze soort staat een levende Boom onder den naam *Callicarpa hexandra* T. et B. in Hort. Bogor. Celebes bor. (Minahassa)."

Lam (1919) seems to be the first person actually to validate the

scientific name at present in use for this taxon -- both Teijsmann & Binnendijk (1863) and Koorders (1898) failed to provide the required description and references under the present Code. Lam cites Forsten s.n., Reinwardt 1528, and Riedel 5686 from Celebes, without designating any of them as the type. I am therefore designating as type the sheet in the Leiden herbarium, cited above, which bears the original inscription of the name.

Collectors have encountered the species along seashores and in rainforests from sealevel to 320 m. altitude, in flower in June, August, and October, and in fruit in February and June. The corollas are said to have been "violet" in color on Kjellberg 666 and "purple" on Sutriano 32. Vernacular names reported for the plant are "donawoe molaba", "hano-gempa", "kapila", "lelema", "lomes", "mololajoe", "nanajoep", "olimato", "ololajo pk", and "walo".

Bakhuizen (1921) includes in his amazing synonymy for this species such remote taxa as *Callicarpa ramiflora* Merr., *C. affinis* Elm., *C. cauliflora* Merr., *C. megalantha* Merr., *Geunsia hookeri* Merr., and *G. grandiflora* H. Hallier. Of these, *Callicarpa affinis* is actually a synonym of *Geunsia farinosa* Blume, *Geunsia hookeri* is a synonym of *G. pentandra* (Roxb.) Merr. and all the others are perfectly valid and in most cases very distinct species. Several are so entirely different (e.g., with cauliflorous inflorescences!) that the late Dr. Merrill once expressed to me very vociferously and pointedly his utter astonishment and disbelief of their ever having been regarded as conspecific with *Geunsia hexandra* (and has indicated this in some pencil annotations in appropriate places in what had been his personal copy of Bakhuizen's work, now preserved in the New York Botanical Garden library).

The Elbert 3040, cited below, bears a notation on its accompanying label to the effect that the "leaves are anisophyllous and serrulate", but I fail to see any marginal teeth on the leaf-blades of the Leiden specimen of this number.

Material of *Geunsia hexandra* has been misidentified and distributed in some herbaria as *Callicarpa arborea* Roxb., *C. cumingiana* Schau., *C. farinosa* var. *typica* H. J. Lam, *C. lanata* L., *C. lanata* var. *typica* H. J. Lam, *C. magna* Schau., *C. pentandra* var. *typica* f. *farinosa* Bakh., *C. tomentosa* Willd., *Geunsia cinnamomea* H. Hallier, *G. cuminghamia* Rolfe, *G. cumingiana* Rolfe, *G. farinosa* Blume, and *G. pentandra* (Roxb.) Merr. On the other hand, the *M. Ramos* s.n. [Herb. Philip. Bur. Sci. 30275], distributed as *Geunsia hexandra* actually is *Callicarpa ramiflora* Merr.

Citations: PHILIPPINE ISLANDS: Mindanao: Ahern 687Q (Bz--18557); *M. S. Clemens* 271 (Bz--18558); *Kanehira* 2518 (N); *Ramos & Edano* s.n. [Herb. Philip. Bur. Sci. 38748] (Bz--18561, W--1292269). GREATER SUNDA ISLANDS: Celebes: Boschproefst. Cel.II.337 (Cb, Ut--33412A, Z); DeVriese & Teijsmann s.n. (Le--908.266-802); Elbert 2999 [7332] (Le--918.302-20), 3040 [7460] (Le--918.302-42), 3040 [7461] (Le--942.64-994), 3096 [7594] (Le--942.64-995); Kjellberg 207 (Bz--18590, F--photo, H, N--photo, S, Sg--photo, Z--photo), 492 (Bz--18488, N, S), 666 (Bz--18572, S); Koorders 19492b [2440] (Bz--18582), 19493b [167] (Bz--18583), 19495b [1440] (Bz--18584,

Bz--18585, Bz--18586), 19496b [1231] (Bz--18587); *Rachmat* 753 (Bz--18567); *Reppie* 705 [Boschproefst. Cel.II.450] (Bz--18180), 795 [Boschproefst. Cel.II.137] (Bz--18179); *Riedel* 5686 (Bz--18592, Ut--11471), s.n. [Minahassa] (Bz--18575); *Rovingpandei* 15 [Boschproefst. b.b.17114] (Bz--18576); *Teijsmann* s.n. [Minahassa, Prov. Menado] (Le--908.266-855--type), s.n. [Palankahoe] (Bz--18574); *Waturandang* 12 [Boschproefst. b.b.12664] (Bz--18562, Le--908.267-725), 194 [Boschproefst. b.b.Vel.II.337] (Bz--18569, Bz--18570, Bz--18571), 227 [Broschproefst. b.b.21756] (Bz--18181), s.n. [Boschproefst. Cel.II.450] (Bz--18577, Bz--18578, Bz--18579, Bz--18580, Ut--33417a). Java: *Blume* s.n. (Le--908.266-876); *Reinwardt* s.n. (Le--919.329-11); *Winchell* 145 (Ut--57840), 241 (Ut--63675). Kabaena: *Elbert* 3378 [8760] (Le--918.302-39), 3378 [8761] (Le--942.64-992), 3378 [8762] (Le--938.87-459). Sumatra: *Buwalda* 6662 (Bz--72613). LESSER SUNDA ISLANDS: Buton: *Elbert* 2690 [6368] (Le--918.330-2), 2690 [6369] (Le--942.64-991), 2690 [6370] (Le--938.87-107), 2760 [6536] (Le--942.64-990). MOLUCCA ISLANDS: Amboina: *DeVriese & Teijsmann* s.n. (Le--909.20-136). Halmahera: *Teijsmann* 7458 (Bz--18551, Bz--18552). Sanana: *Bloembergen* 327 [Boschproefst. b.b.28831] (Bz--18176). CULTIVATED: Java: *Herb. Hort. Bot. Bogor.* XI.G.20a(Bz), XI.G.22 (Bz--25715, Bz, Z), XI.G.22a (Bz--26523, Bz), XI.G.22 en a (Bz--25716, Bz, Bz), s.n. [C. H. 16] (Bz--18545), s.n. (Bz--18544, Bz--18546, Bz--18548, Bz--18549, Bz--18550); *Sutriano* 32 [Herb. Hort. Bot. Bogor. XI-G-20-A] (Ba, N). LOCALITY OF COLLECTION UNDETERMINED: *Collector undetermined* s.n. [Archipel. Ind.] (Bz--18591), s.n. (Le--908.266-2).

GEUNZIA HEXANDRA var. *MACROPHYLLA* Mold., *Phytologia* 49: 430. 1981.

Bibliography: Mold., *Phytologia* 49: 430. 1981.

This variety differs from the typical form of the species chiefly in its much larger leaf-blades, which are at least to 40 cm. long and 15 cm. wide.

It is based on *Fedilis & Sumbing SAN.89702* from near a stream at the side of a hill in the NBT logged area at mile 26 from Luasong, District Tawau, Sabah, collected on February 25, 1979, and deposited in my personal herbarium. The collectors note "Clear bole 10 ft. long, height 23 ft. Girth 6 ins. bark white brownish, inner bark pale greenish, sapwood whitish. Flowers whitish pink with brown stalk."

Citations: GREATER SUNDA ISLANDS: Sabah: *Fedilis & Sumbing SAN.89702* (Z--type).

GEUNZIA HEXANDRA f. *SERRULATA* Mold., *Phytologia* 5: 8. 1954.

Bibliography: Mold., *Phytologia* 5: 8. 1954; Mold., *Résumé* 195, 218, & 455. 1959; Mold., *Fifth Summ.* 1: 324 & 363 (1971) and 2: 878. 1971; Mold., *Phytol. Mem.* 2: 315, 354, & 548. 1980; Mold., *Phytologia* 50: 56. 1981.

This form differs from the typical form of the species in having its leaf-blades more or less plainly serrulate along most of their margins or, at least, above the middle.

The type of the form was collected by G. H. de Vriese and J. E.

Teijsmann on Celebes and is sheet number 908.265-360 in the Leiden herbarium.

Herb. Bogor. 26592 is said to represent this form, but this I have as yet not been able to verify. The *Elbert 3040* collection appears to be a mixture of this form with material of the typical form of the species -- the portion indicated by the secondary number 7459 exhibiting the serrulate leaves, while 7460 and 7461 have the entire-margined leaves of the typical form. Similarly, *Elbert's 3096* [7594] is the typical form, while 3096 [7599] is the serrulate form.

Material of *Geunsia hexandra* f. *serrulata* has been misidentified and distributed in some herbaria as *Callicarpa arborea* Roxb., *C. pentandra* Roxb., *C. pentandra* f. *floccosa* Bakh., *C. pentandra* var. *typica* f. *hexandra* Bakh., *Geunsia cumingiana* (Schau.) Rolfe, and *G. farinosa* Blume.

Citations: GREATER SUNDA ISLANDS: Celebes: *DeVriese & Teijsmann s.n.* (Le--908.265-360--type); *Elbert 3040* [7459] (Le--938.87-458), 3096 [7599] (Le--918.302-22); *Forsten s.n.* (Le--908.267-731, Le--908.267-732); *Koorders 19497b* [1628] (Bz--18588), 19533b [3045] (Bz--18589); *Reinwardt 1528* (Le--908.266-845, Le--908.267-723, Le--908.267-784); *Teijsmann s.n.* [Palenkahoe] (Bz--18573). CULTIVATED: Java: *Herb. Hort. Bot. Bogor. XI.G.20* (Bz--18543, Bz--25712, Bz--25713, Bz--25714, Bz--26522, Bz, Z), *s.n.* (Bz--18547).

GEUNZIA HOMOEOPHYLLA H. Hallier, Meded. Rijks Herb. Leid. 37: 26--27. 1918.

Synonymy: *Geunsia homoiophylla* Hall. f. apud H. J. Lam, *Verbenac. Malay. Arch.* 32, 44, & 365. 1919. *Geunsia homeophylla* H. Hallier apud E. D. Merr., *Bibl. Enum. Born. Pl.* 511. 1921.

Bibliography: H. Hallier, *Meded. Rijks Herb. Leid.* 37: 26--27. 1918; H. J. Lam, *Verbenac. Malay. Arch.* 32, 44, & 365. 1919; Bakh. in Lam & Bakh., *Bull. Jard. Bot. Buitenz.*, ser. 3, 3: 11, 111, & xii. 1921; E. D. Merr., *Bibl. Enum. Born. Pl.* 511. 1921; A. W. Hill, *Ind. Kew. Suppl.* 6: 91. 1926; Mold., *Known Geogr. Distrib. Verbenac.*, ed. 1, 65 & 93 (1942) and ed. 2, 146 & 185. 1949; Mold., *Résumé* 193, 195, & 455. 1959; Mold., *Fifth Summ.* 1: 324 (1971) and 2: 878. 1971; Mold., *Phytol. Mem.* 2: 315 & 548. 1980; Mold., *Phytologia* 50: 56, 57, & 62 (1981) and 50: 224. 1982.

A tree; branchlets 3--6 mm. thick, rather loosely puberulent-pulverulent, the younger parts minutely ochraceous- or yellowish-farinose, the older parts glabrescent and dark-fuscous; principal internodes below the leaves 2--7 cm. long, above them 1.5--3 cm. long; nodes marked with 2 opposite, transverse, straight or curved, elevated annulations; leaves not plainly anisophyllous, all subequal in form and size, in 2 sets of two each, followed by the next 3 ternate or subternate, the upper pair smaller in size; petioles stout, 1.5--3 cm. long, semi-terete, in drying longitudinally rugose but not plainly angled, loosely pulverulent-puberulent with ochraceous hairs and minutely yellowish-farinose; leaf-blades herbaceous or chartaceous, ovate to ovate-oblong or ovate-lanceolate, 8.5--20 cm. long (in all) and 4--8 cm. wide, apically acutely long-acuminate (the acumen to 3 cm. long and basally 5--15 mm. wide),

marginally entire, basally broadly subacute or abruptly attenuate (but not plainly cuneately elongate), sordid-green and glabrate above when adult, when immature here and there loosely puberulent-pulverulent with minute stellate and deciduous hairs (more densely so or even pubescent on the midrib and larger veins), opaque, densely white subochraceous-tomentellous (except for the pubescent midrib and larger veins) or rather loosely stellate-tomentose beneath; midrib loosely pulverulent-puberulent and ochraceous beneath; secondaries 7--12 per side, prominently pinnate, ascending, antrorsely curcate; veinlet reticulation somewhat conspicuous above, prominently clathrate-venose and not as prominent beneath; inflorescence corymbose, to 9 cm. wide; peduncles 1--6 cm. long, usually longer than and sometimes several times longer than the petioles, loosely ochraceous-puberulent-pulverulent; cymes rather small, 3--5 cm. long, 4--9 cm. wide, several times divaricate-dichotomous, loosely ochraceous-puberulent-pulverulent and and more or less yellowish-farinoze; primary bracts linear, 0.3--1.7 cm. long, not at all or only very slightly smaller on the corymb-branches; pedicels 1--1.5 mm. long; calyx cupuliform, 1.5--2 mm. long, 1.5 mm. wide during anthesis, obtruncate, externally densely pubescent, the rim obsoletely 4-denticulate; corolla crimson, 5 mm. long, about 3 times as long as the calyx, the tube 3--3.5 mm. long, externally basally glabrous, apically softly pubescent or puberulent, the limb 4-lobed, the lobes oblong, about 2 mm. long and 1 mm. wide, apically rounded, softly pubescent on their midribs; stamens 4, inserted in the corolla-tube; filaments slightly surpassing the corolla-tube, basally puberulent; anthers elongate, long and narrow, 7--9 mm. long, 2.5--3 mm. wide, apically emarginate, basally sagittate, dorsifix in the apical sinus, introrse, shortly birimose, dorsally sparsely (or not at all) glandular-punctulate along the connective; style about 9 mm. long, slightly surpassing the stamens, glabrous; stigma terminal, capitate or clavate, lobed; ovary externally glabrous; (immature?) drupes depressed-globose, about 3 mm. wide, apically impressed-umbilicate, black when dry, externally subglabrous, slightly glandular-punctulate, enclosed scarcely to the middle by the obtruncate cupuliform fruiting-calyx which is irregularly split.

The type of this species was collected by H. Hallier (no. B. 348) "Über einem Ladang der Ostseite am Sattel der Insel Lombok-utan", western Borneo (Kalimantan), on October 5, 1893, deposited in the Leiden herbarium.

Hallier (1918) refers to "stipular" scars on the branches, but the leaves in this group are exstipulate; the features referred to by him are annular rings.

Bakhuizen sinks this species in the almost all-inclusive synonymy which he gives for what he calls *Callicarpa pentandra* Roxb. Lam (1919), accepting it as a valid species, notes that "It has a strong affinity with *G. Pullei*, from N. Guinea, but is different in the shorter apex of the leaves, their abruptly attenuate (not acute) base, the 4-merous flowers, the shorter corolla-tube, the less hairy lobes,..... "

[to be continued]